

LISTING OF THE CLAIMS

Claims 1, 2, 4, 6-9, 11, 14-18, 21, and 23-28 are currently pending in the Application. Claim 6 has been amended. Claims 11, 14-18, and 26 have been cancelled, without acquiescence in the cited basis for rejection or prejudice to pursue the original claims in a related application. No new matter has been added. A complete listing of the pending claims is provided below and supersede(s) all previous listing(s) of claims. No new matter has been added.

1. (Previously Presented) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:
an input port configured to receive a packet;
a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and
a plurality of output ports configured to output the packet, wherein:
a number of duplications of the packet for each of the plurality of output ports is controlled by descriptors arranged in the linked-list table indexed by a hashing function applied to said multicast address data;
wherein an encoding format of the descriptors includes at least one of:
a contiguous range encoding that includes a starting indicator and an ending indicator; or
a non-contiguous range encoding that includes a most significant bit (MSB) portion of an indicator and a bitmap decoded from a least significant bit (LSB) portion of the indicator;
and
a discrete encoding that includes a first indicator and a second indicator;
wherein the encoding format is configured to be selected in response to control bits;
wherein each of the plurality of entries includes a pointer descriptor which includes a plurality of linked-list pointers corresponding to the plurality of output ports.

2. (Original) The packet duplication system of claim 1, wherein:
each of the number of duplications is coupled to a Virtual Local Area Network (VLAN).

3. (Cancelled)

4. (Original) The packet duplication system of claim 1, wherein:
the descriptors arranged in the linked-list table include at least one shared descriptor.

5. (Cancelled)

6. (Currently Amended) The packet duplication system of claim 1, wherein:
each of the plurality of entries corresponds to one of the plurality of output ports.

7. (Previously Presented) The packet duplication system of claim 1, wherein:
the contiguous range encoding includes a starting Virtual Local Area Network (VLAN)
indicator and an ending VLAN indicator.

8. (Previously Presented) The packet duplication system of claim 1, wherein:
the non-contiguous range encoding includes a most significant bit (MSB) portion of a
Virtual Local Area Network (VLAN) indicator and a bitmap decoded from a least
significant bit (LSB) portion of the VLAN indicator.

9. (Previously Presented) The packet duplication system of claim 1, wherein:
the discrete encoding includes a first Virtual Local Area Network (VLAN) indicator and
a second VLAN indicator.

10-20. (Cancelled)

21. (Previously Presented) A multicast packet duplication system for multicast packets
containing at least multicast address data, comprising:
an input port configured to receive a packet;
a pointer table having a width comprising a plurality of entries coupled to a linked-list

table; and
a plurality of output ports configured to output the packet; said output ports being coupled to one or more Virtual Local Area Networks (VLAN);
wherein said system applies a hashing function to the multicast address data of said multicast packets;
and wherein said system uses said hashing function as an index to said linked-list table;
said linked-list table having entries that comprise at least either multicast descriptors or pointers to multicast descriptors;
said multicast descriptors being comprised of at least multicast VLAN descriptors or pointers to multicast VLAN descriptors;
wherein a number of distributions of said multicast packet and an output port distribution of said multicast packet is controlled by information stored in either the multicast descriptors or multicast VLAN descriptors;
wherein an encoding format of said multicast VLAN descriptors include at least one of:
a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator;
a non-contiguous range encoding that includes a most significant bit (MSB) portion of a VLAN indicator and a bitmap decoded from a least significant bit (LSB) portion of the VLAN indicator; and
a discrete encoding that includes a first VLAN indicator and a second VLAN indicator;
wherein the encoding format is configured to be selected in response to control bits;
wherein each of the plurality of entries of the pointer table includes a pointer descriptor which includes a plurality of linked-list pointers corresponding to the plurality of output ports.

22. (Cancelled)

23. (Previously Presented) The packet duplication system of claim 21, wherein said multicast descriptors also include a multicast packet time to live field.

24. (Previously Presented) The packet duplication system of claim 21, wherein said multicast Virtual Local Area Network (VLAN) descriptors contain a plurality of entries each describing the multicast packet distribution to a different VLAN.

25. (Previously Presented) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:
an input port configured to receive a packet;
a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and
a plurality of output ports configured to output the packet; said output ports being coupled to one or more Virtual Local Area Networks (VLAN);
wherein said system applies a hashing function to the multicast address data of said multicast packets;
and wherein said system uses the result of said hashing function as an index to said linked-list table;
said linked-list table having entries that comprise either multicast descriptors or pointers to multicast descriptors;
said multicast descriptors being comprised of at least multicast VLAN descriptors or pointers to multicast VLAN descriptors;
wherein a number of distributions of said multicast packet and an output port distribution of said multicast packet is controlled by information stored in either the multicast descriptors or multicast VLAN descriptors;
wherein said multicast VLAN descriptors contain a plurality of entries each describing the multicast packet distribution to a different VLAN; and
wherein an encoding format of said VLAN descriptors include at least one of:
a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator;
a non-contiguous range encoding that includes a most significant bit (MSB) portion of a VLAN indicator and a bitmap decoded from a least significant bit (LSB) portion of the

VLAN indicator; and
a discrete encoding that includes a first VLAN indicator and a second VLAN indicator;
wherein the encoding format is configured to be selected in response to control bits;
wherein each of the plurality of entries of the pointer table includes a pointer descriptor
which includes a plurality of linked-list pointers corresponding to the plurality of output
ports.

26. (Cancelled)

27. (Previously Presented) The packet duplication system of claim 1, wherein a first
descriptor in the linked-list table includes a first link to a second descriptor in the linked-list
table.

28. (Previously Presented) The packet duplication system of claim 27, wherein the
second descriptor in the linked-list table includes a second link to a third descriptor in the
linked-list table.

29. (Cancelled)